

**MADERA COUNTY**  
**SENIOR NETWORK ENGINEER**

**DEFINITION**

Under general direction, to administer complex, large-scale servers and/or local and wide area networks; to provide supervision, direction and assistance to lower level staff; to serve as a technical expert in network and computer technology; and perform related work as assigned.

**SUPERVISION EXERCISED**

Exercises technical and functional supervision over lower level staff.

**DISTINGUISHING CHARACTERISTICS**

This is the advanced journey-level of the Network Engineer class series. Positions at this level are distinguished from the lower classifications by the complexity and difficulty of the work performed and possess a significant level of specialized technical and functional expertise beyond that expected at the journey level. Incumbents demonstrate highly specialized knowledge, abilities, skills and experience, and often exercise judgment in the performance of their duties. Assignments at this level may require full proficiency in two or more network operating systems such as Windows 2000/2003/XP. In addition, positions assigned to this class level provide work direction and training for the less experienced staff.

**EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES**

Provides supervision and plans and reviews the work of staff responsible for administering information systems, servers and/or local area networks in the County; manages design, acquisition, and installation projects; plans and performs the installation of computer networking devices and computer hardware; evaluates system monitoring devices and software; recommends appropriate tools required to measure network performance and capacity; conducts network monitoring and testing; customizes networking hardware and develops installation procedures for new equipment; contributes to the establishment of network standards; consults with staff to determine methods required to interface local area and wide area networks; evaluates alternative technologies to determine cost effectiveness; performs studies to ensure feasibility; develops and implements methods to ensure maximum network availability; develops plans for network disaster recovery; provides training to department staff on network theory and operation; performs complex network administration duties; implements advanced network security and access schemes; resolves problems related to operating system, hardware, printing, and networks; installs, configures, upgrades, troubleshoots, and maintains servers, desktop work stations, and peripherals; designs, installs, configures, upgrades, troubleshoots, repairs and maintains LAN/WAN communication equipment and infrastructure equipment; installs, configures and maintains new and/or upgraded operating systems, applications, protocols, remote access, and network software; maintains current knowledge of the field including learning new and existing software, applications, databases and hardware; acts as liaison and represents the department in meetings with other departments, contractors, vendors or agencies.

**OTHER JOB RELATED DUTIES**

Performs related duties and responsibilities as assigned.

**JOB RELATED AND ESSENTIAL QUALIFICATIONS**

**Knowledge of:**

Full range of network communication systems, protocols, and applications.  
Network security design and support.  
Principles, methods, and procedures of operating computers and peripheral equipment.  
Advanced troubleshooting methods and techniques.  
Network/server configuration and administration for large scale and complex systems.  
Data security and disaster recovery systems and procedures.  
Server administration in a secure environment.  
Techniques of project planning and management.  
Network and PC operating systems, including Microsoft 2000/2003/XP and Active Directory, advanced LAN and WAN concepts, and application of the OSI network model.  
Principles of work planning, evaluation, and training.  
Analytical techniques for documenting user department network requirements and translating user requirements into hardware and software specifications.

**Skill to:**

Operate a motor vehicle safely and efficiently.  
Operate modern office equipment, including computer equipment.

**Ability to:**

Configure routers, switches, servers and personal computers as well as other network equipment.  
Plan, coordinate and monitor complex projects.  
Plan network hardware installations and provide complete, accurate and comprehensive documentation.  
Develop and maintain IP/IPX network structure and sub nets.  
Perform advanced system administration and maintenance functions with network operating systems, hardware, software, peripherals and components.  
Install, configure, modify and maintain operating system, application, network, remote access, and specialized software.  
Evaluate user department needs and recommend installations of new network equipment and servers.  
Plan, organize, and evaluate the work of others.  
Effectively communicate complex, technical concepts to non-technical users.  
Write clear and concise technical reports and correspondence.  
Provide training and explain system and application use.

Communicate clearly and concisely, both orally and in writing.  
Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.

**Experience and Training Guidelines:**

*Any combination equivalent to experience and training that would provide the required knowledge, skills, and abilities would be qualifying. A typical way to obtain the knowledge, skills, and abilities would be:*

**Experience:**

Three years of increasingly responsible experience in the management, development, and maintenance of a local or wide area network equivalent to that of a Network Engineer I/II with Madera County.

**Training:**

Equivalent to two years of college level course work in Computer Science, Information Systems or a closely related field, including course work in network administration.

**License or Certificate:**

Possession of, or ability to obtain, a valid California drivers license.

Possession of one or more of the following: Microsoft Certified Systems Engineer (MCSE), Microsoft Certified Professional (MCP), CISCO Certified Network Associate (CCNA) certification or equivalent certifications as determined by the Director of Information Technology.

**Special Requirements:**

*Essential duties require the following physical skills and work environment:*

Ability to sit, stand, reach, balance, walk, kneel, crouch, stoop, squat, crawl, twist, climb, lift 25 lbs.; exposure to cold, heat, noise, mechanical and electrical hazards; work in a confined space; travel to different sites and locations; availability for shift work.

Effective Date: April, 2007